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Rutgers–Camden Tech Campus to get $1.5 million for new biotech center

The U.S. Economic Development Administration has awarded the Rutgers–Camden Technology Campus (RCTC) a $1.5 million grant for its new Biotech-Life Science Business Incubator. The grant will be used to construct wet lab space for 18 laboratories in the new Biotech-Life Science Business Incubator and will create 255 jobs and generate more than $17 million in private investment.

Peter Gold, CEO of the technology campus and associate provost for economic initiatives on the Camden Campus, called the investment “a hugely important advancement for the establishment of a Rutgers-driven life science business incubator.”

The grant will promote collaborations among our regional institutional partners, such as the University of Medicine and Dentistry of New Jersey, Coriell Institute, Cooper Health System, and the Robert Wood Johnson Medical School, Gold said. Simultaneously, he added, it will create "exceptional practical experiences for Rutgers student and faculty researchers, while accelerating the commercialization of scientific research so that innovations in healing will be brought both to the market and the people of the world much sooner.”

The RCTC serves 35 on-site client companies and 15 virtual client companies, representing 155 jobs with a combined payroll of $6 million. These positions represent skilled jobs that otherwise might not have located in Camden. RCTC company employees may access a complete portfolio of general and targeted business advice, services, and skills training that is transferable to many situations. The RCTC provides office, laboratory, and light manufacturing space in a submarket cost environment.

The Economic Development Association (EDA), a division of the U.S. Department of Commerce, serves as a venture capital resource to meet the economic development needs of distressed communities throughout the United States. EDA's mission is to lead the federal economic development agenda by promoting innovation and competitiveness, preparing American regions for growth and success in the worldwide economy.

"Rutgers-Camden has a long history of breeding talented, hard-working science students who go on to lead successful careers in biotechnology," said U.S Sen. Lautenberg (D-NJ). "The EDA grant will go a long way toward helping New Jersey retain its growing talent pool in biotechnology and create jobs in the Camden region. This is a win for everyone involved – students, residents, Rutgers, and local businesses."

- Michael Sepanic

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Digital directory of women's artists' papers now online

The first digital directory of archives holding the papers of women artists active in the United States since World War II is now online. Developed by Rutgers University Libraries, with initial funding by the Getty Foundation, the Women Artists Archives National Directory (WAAND) unites online information on archival repositories into a single catalog.

As archivists, librarians, and artists add their information to WAAND, scholars and students will be able to find out quickly where artists' papers are housed and how best to access them.

Art historian and librarian Ferris Olin and Professor Emerita Judith K. Brodsky have led the effort to build the directory. WAAND is a project of the Institute for Women and Art and the Rutgers University Libraries.

"Authoritative information about contemporary women artists and their art is the cornerstone of WAAND," Brodsky said. As a result of the Feminist Art Movement of the 1970s, American women artists are recognized internationally for innovative ideas now embedded in contemporary art practice. Nevertheless, their erasure from the art historical record remains a cause for concern, she said. "Too many women artists enjoy fruitful careers, only to have their artworks and their professional accomplishments vanish from the cultural record."

Eighty institutional participants – museums, libraries, universities, private and public galleries, and almost 800 collections are represented in the directory's initial release.

- Ken Branson

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Rutgers students dance to the tune of $220K for charity

The ninth annual Rutgers Dance Marathon, the largest philanthropic event in the state run entirely by student volunteers, raised $220,018.41 for the Institute for Children with Cancer and Blood Disorders in New Brunswick.

More than 300 stayed awake and on their feet for 32 hours straight during the event, which started at 10 a.m. Saturday, March 24, and ended Sunday, March 25, at 6 p.m. This year's marathon surpassed last year's total by more than $30,000.

The Institute for Children with Cancer and Blood Disorders is affiliated with the Robert Wood Johnson University Hospital and the Cancer Institute of New Jersey. The institute provides counseling, tutoring, and other support services to children and families facing serious illness. One floor of the institute headquarters on Somerset Street is named in honor of the dance marathon.

The marathon, held at the College Avenue Gym, included entertainment by local bands and DJs. Families of children served by the institute also attended. The marathon has raised a cumulative total of more than $1.22 million for the institute since its inception in 1999.

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Engineers develop process to recycle unused paint into plastics

Rutgers engineers have developed a process to recycle waste latex paint – the largest component of household hazardous waste – by blending it with common plastics. In laboratory samples, these paint-blended plastics were as good as, and in some cases superior to, the same plastics made without paint.

The university has signed a licensing agreement with Re-Manufacturing Technologies, Inc., a new spinoff of the National Council on Paint Disposition, Inc., to advance this promising technology toward commercialization. The group was formed by a long-time paint dealer and businessman in 2002 to develop a viable approach for reducing the disposal costs and environmental impact of waste paint products.

“Many municipalities forbid discarding paint in the trash because it’s an environmental nuisance – it spills from cans that garbage trucks crush, defacing streets and contaminating refuse-handling equipment,” said Tom Nosker, professor in the Department of Materials Science and Engineering and principal investigator at a university center for advanced polymer materials. “They’ve responded by accepting unwanted paint during household hazardous waste recycling days, but then they’re left holding the bag, having to contract for proper waste management at almost $9 per gallon. An effective recycling solution could cut that cost, and possibly even become a moneymaker.”

Unwanted paint has become the largest component of household hazardous waste – some 68 million gallons annually. Plastics made with recycled paints could be used to make paint containers, eliminating metal cans and essentially bringing the paint product’s life cycle full circle. It’s also possible that unused paint and the plastic paint container that holds it could be recycled together.The engineers plan to explore recycling oil-based paints, used far less today than latex paint but representing a greater environmental threat, and look into other petroleum-based materials that unwanted paints could effectively extend.

- Carl Blesch

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NIH awards $1.5M to researcher to study a motor protein linked to heart failure, stroke

Charalampos "Babis" Kalodimos, assistant professor of chemistry in Newark, has been awarded a $1.5 million grant from the National Institutes of Health (NIH) for his research into a motor protein linked to heart failure and stroke.

His grant proposal into the motor protein, known as SecA, also was presented with one of the highest rankings awarded by the NIH, according to Lynn Schneemeyer, vice provost for research at Rutgers-Newark.

Kalodimos said that by gaining a better understanding of how SecA functions, more effective drug therapies can be developed that also have fewer side effects. The design of such drugs would help to lower the incidence of heart disease and stroke, among the top three killers in the United States.

Not naturally found within the human body, SecA is contained within bacteria that are inhaled or ingested. Once the bacteria enter the body, it then directs proteins to push themselves outside the bacteria cells and then enter human cells. By pinpointing exactly how SecA functions, it then may be possible to design drugs that specifically target SecA to prevent it from directing the proteins to enter human cells, Kalodimos said. Since SecA does not naturally occur in the body, inhibiting its functions should have minimal, if any, side effects.

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Scientists unlock physical, chemical secrets of plutonium

Researchers in physics and astronomy have unlocked some of the physical and chemical secrets of plutonium, an element known for its use in atomic weapons and power plant fuel. While the complex nuclear characteristics of plutonium are well-known, it has properties as a metal or a chemical compound that have often left scientists scratching their heads.

The findings, by professors Kristjan Haule and Gabriel Kotliar, along with postdoctoral fellow Ji-Hoon Shim, help explain some contrary characteristics of plutonium. Unlike many metals, plutonium is not magnetic and not a good conductor of electricity, and it shows greater changes in volume under small changes in temperature and pressure.

Writing in the journal *Nature*, the physicists report that valence electrons – those which control how atoms bond with each other – fluctuate among different orbitals in solid plutonium metal on a very short time scale. In contrast, earlier theories specified fixed numbers of valence electrons in those orbitals. "A theory that permits fluctuating valence electrons consistently explains properties that scientists observe in laboratory experiments," Haule said.

While the authors' findings and study methods are mainly of interest to other researchers seeking clear explanations of complex materials, the knowledge may someday help scientists create safer and more versatile nuclear materials for energy, industry and medicine. The research is in a branch of physics known as condensed matter physics, which deals with the physical properties of solid and liquid matter.

- Carl Blesch

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